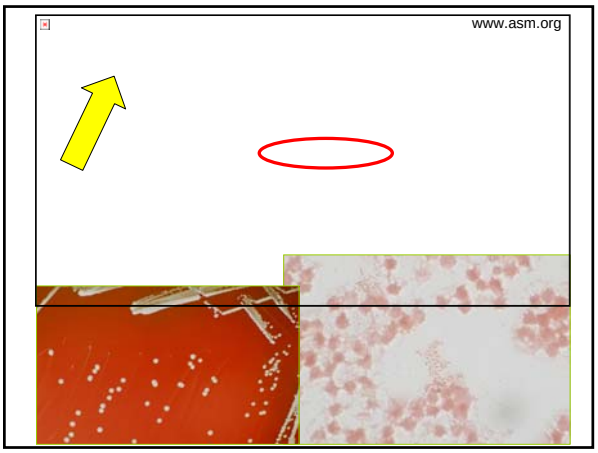
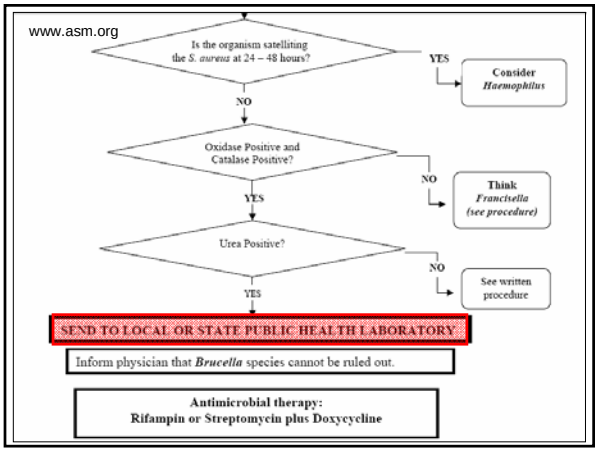
Do You Know Your BT Agent?

This tiny gram-negative coccobacillus is oxidase, catalase, and nitrate positive, but is most noted for its strong urease reaction which can occur in minutes.

Brucella spp.





History of CAP-LPX

LPS-10

- ***Brucella abortus* (RB51)**

LPS-10

35.3% - **Gram-negative coccobacillus, aerobic, refer to rule out *Brucella* sp.**

17.8 % - **Gram-negative coccobacillus, suspicious for *Brucella* sp., unable to further identify**

10.7% - **Gram-negative bacillus, suspicious for *Brucella* sp., unable to further identify**

5.4% - ***Brucella* sp., NOS**

2.0% - ***Brucella abortus***

History of CAP-LPX

LPS-10

- ***Brucella abortus* (RB51)**

Oxidase

93.0% - **Positive**

4.3% - **Not Performed**

2.7% - **Negative**

Oxidase	Participants No.	(1106) %
Positive	1028	93.0
Negative	31	2.7
Not Performed	47	4.3

History of CAP-LPX

LPS-10

- ***Brucella abortus* (RB51)**

Satellite

84.4% - **Not Performed**

15.5% - **Negative**

0.1% - **Positive**

Satellite	Participants No.	(1054) %
Positive	1	0.1
Negative	164	15.5
Not Performed	889	84.4

History of CAP-LPX

LPS-07

- ***Brucella abortus* (RB51)**

Urease

79.7% **- Positive**

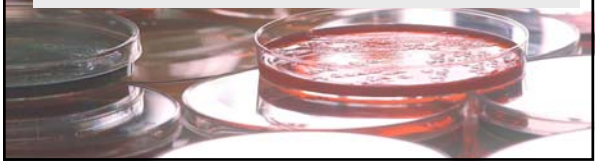
18.7% **- Not Performed**

1.6% **- Negative**

Urease	Participants No.	(1082) %
Positive	862	79.7
Negative	18	1.6
Not Performed	202	18.7

2007 LPS-B: *B. abortus* RB51

- **Oct. 15, 2007: sent to labs**
- **Distributed to 1,316 labs – U.S. & Canada**
- **Nov. 27, 2007: CDC notified by NYSDOH**
- **Potential RB51 exposure**



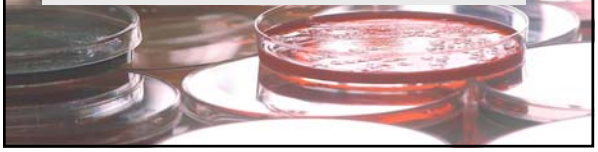
2007 LPS-B: *B. abortus* RB51

- **Instructions:**
  - **Handle in a Class II BSC**
  - **Use BSL-3 primary barriers (gloves, etc.)**
- **RB51 sent to NYSDOH lab mislabeled as a routine patient**
- **Worked with isolate on open bench**
- **24 laboratorians with potential exposure**

2007 LPS-B: *B. abortus* RB51

NYSDOH surveyed participating NY sentinel labs

- **16 labs – improper handling**
- **CDC recommends all states assess their labs**



2007 LPS-B: *B. abortus* RB51

CDC provides questions to assess exposure

- **Types of manipulations and aerosol generating procedures**
- **Defined levels of exposure (high, low, none)**
- **Number recommended to receive PEP**
- **Any illness in exposed, consistent with Brucella**

2007 LPS-B: *B. abortus* RB51

"High-risk" Exposure

- **Performed a high-exposure practice (e.g. sniffing plates)**
- **Were within 5 feet of any manipulation of RB51 on open bench**
- **Were present in lab during widespread aerosol-generating event (e.g. vortexing) of RB51**

MMWR, Jan. 18, 2008/57(02); 36-39

2007 LPS-B: *B. abortus* RB51

Voluntary Reports - Exposures

- **36 states, 2 cities, 1 county, and DC**
- **254 labs**
- **916 lab workers**
  - **679 (74%) High-risk**
  - **237 (26%) Low-risk**
- **% persons who received PEP – not available**
- **As of Jan.14, 2008 – no illnesses**

2007 LPS- Delaware Labs

- # labs reporting exposure - 5
- # staff – High risk exposure- 11
- # staff- low risk exposure- 12
- No risk- Carrying a closed culture plate to an incubator ,Observing a fixed/stained slide under a microscope, Observation of a closed culture plate

2007 LPS-B: *B. abortus* RB51

Questions Raised:

- **Are labs reading instructions?**
- **Are labs disregarding safety?**
- **What about every day organisms – TB, *N. meningitidis*?**
- **What if large-scale BT event?**

Delaware Epi Data

Category A agents		
Disease	Organism	# (1997-2008)
Anthrax	Bacillus anthracis	0
Botulism, infant	Clostridium botulinum	11
Botulism, food	Clostridium botulinum	0
Brucellosis	Brucella species	5
Plague	Yersinia pestis	0
Smallpox	Variola	0
Tularemia	Francisella tularensis	12
Meningitis	Neisseria meningitidis	58

2007 LPS-B: *B. abortus* RB51

Lessons Learned:

- **Clinical Labs may not be handling the CAP-LPS samples appropriately**
- **A need for more clear instructions**
- **A need for training and education of Sentinel Labs**